

***NATIONAL WEATHER SERVICE INSTRUCTION 10-809
SEPTEMBER 5, 2002***

***Operations and Services
Aviation Weather Services***

***SUPPORT TO FEDERAL AVIATION ADMINISTRATION PILOT WEATHER
BRIEFING FACILITIES***

NOTICE: This publication is available at: <http://www.nws.noaa.gov/directives/>.

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SIGNED

9/05/02

Gregory A. Mandt

Date

Director, Office of Climate, Water, and Weather Services

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1. Purpose. This instruction details procedures and responsibilities for NWS Weather Forecast Office (WFO) Meteorologists in Charge (MIC), NWS staff at the Federal Aviation Administration (FAA) Academy, and any personnel assigned as Aviation Focal Points (AFP) when conducting visitation trips to FAA Flight Service Station (FSS) facilities within their Area of Responsibility (AOR).

2. General. The NWS does not conduct official Pilot Weather Briefings (PWB). However, all NWS offices will have oversight responsibility for PWB services because they utilize aviation products issued by NWS meteorologists.

3. Tasks and Procedures. NOTE: Units identified in parentheses at the end of each subsection indicate responsibility for that task.

a. AWC, CWSU, and WFO responsibilities:

- (1) Provide aviation training to current and future aviation forecasters. This includes local training, and national and regional Aviation Operations Course (AOC). (AWC, WFO)

- (2) Conduct semi-annual visits to FSSs and Air Route Traffic Control Centers (ARTCC) and solicit feedback for NWS meteorologists. (WFO)
- (3) Support FAA Automated FSSs (AFSS) and in some cases, local area ARTCCs by allowing, as work force levels permit, forecasters time to provide aviation weather training, especially in satellite and radar interpretation. Training lesson plans can be obtained from the NWS MIC at the FAA Academy (FAA-A MIC). (WFO)
- (4) Allow time to observe PWB operations and conduct meteorological interpretation checks. (WFO)
- (5) Conduct visits to AFSS facilities for familiarization and assistance in recommending improvements in aviation weather product interpretation. (AWC, WFO)
- (6) Develop close working relationships with FAA facility managers to partner aviation efforts and improve service to customers. (AWC, WFO, CWSU)
- (7) Maintain working knowledge of NWS office functions at the FAA Academy. This will facilitate giving professional advice to local FAA facilities (AFSS, Air Traffic Control Towers (ATCT), ARTCC) for obtaining all NWS-provided certificates. (WFO, CWSU)
- (8) Participate in En-route Flight Advisory Service (EFAS) courses at the FAA Academy as regional and/or local office resources permit. (AWC, WFO, CWSU)
- (9) Keep customers informed about processes and products being developed to improve forecasts and services, measured through the NWS's Aviation Verify Program. (AWC, WFO)

The WFO MIC assigns AFPs to conduct visits to FAA facilities within their respective AOR. Visits are documented using current paper versions of NWS Form A-20 and NWS Form D-29, as applicable. Suitable electronic versions of both forms, found at Appendices B and C, respectively, may be used instead of paper forms. Also, the electronic form at Appendix E will be used for meteorological interpretation checks. The WFO keeps a copy of the report, provides a copy to the facility visited and the Regional Headquarters (RH), and mails the original to the FAA-A MIC.

b. FAA Academy responsibilities (these are detailed in the FAA-NWS Joint Memorandum of Agreement):

- (1) Focus training on PWB.

- (2) Provide guidance and required weather training for air traffic controllers from FSSs, ATCTs, and ARTCCs.
- (3) Develop and maintain up-to-date Computer Based Instruction (CBI) modules for use by FAA specialists working in pilot weather briefer positions.
- (4) Administer and grade written (Weather Analysis, Satellite, and Radar) and oral exams for PWB candidates. For oral exams, conduct debriefing sessions with the candidate and appropriate facility manager and training officials.
- (5) Issue Certificates of Authority (CA) to certified pilot weather briefers.
- (6) Maintain a database of all authorized PWB Certificates.
- (7) Administer proficiency checks and exams to certified pilot weather briefers. Proficiency checks will also be administered at random as resources allow.
- (8) Continuously modify lesson plans to improve teaching methods and training materials for academy students.
- (9) Assist WFOs with aviation training materials as resources permit.
- (10) Visit AFSSs, Center Weather Service Units (CWSU), and the Aviation Weather Center (AWC) to maintain knowledge and currency of the field operational environment and technologies used to support aviation customers.

The FAA-A MIC will assign staff (evaluation officers and instructors) to conduct visits to FAA facilities in the United States as financial resources allow. Visits are documented using the current versions of NWS Forms A-20, D-28, and D-29. Suitable electronic versions of these forms, found in Appendices B, C, and D, respectively, may be used instead of paper forms. Copies of the reports will be mailed to the AFSS facility visited, the RH, and the WFO which has AOR for the facility visited.

4. Training. NWS forecasters will be aware of how weather phenomena affect aircraft performance and pilot decision making. Participation in annual aviation training seminars and workshops, facilitated through close working relationships with local FAA agencies and the FAA-A MIC, can aid this training. At a minimum, forecasters will receive training on aviation flight operations; aviation community requirements; and specific techniques, procedures and products used by certified PWB specialists. This can be accomplished through AOCs developed by NWSH or NWS regions, and training programs developed in collaboration with the university community, the FAA, and other aviation organizations.

4.1 NWS Personnel performing Proficiency Checks. Only NWS FAA Academy personnel will conduct proficiency checks on FAA personnel performing PWB duties.

4.2 FAA Academy PWB Residence Course. Initial training for FAA PWB candidates is accomplished at the FAA Academy. The FAA-A MIC and staff will develop, organize, and conduct training of aviation weather for the residence course. PWB practice is provided in a Model 1 full capacity AFSS lab using both “canned” and “live” weather. PWB duties will be conducted using the FAA’s next generation system currently being deployed, the Operational and Supportability Implementation System, also known as OASIS.

4.3 Certification of FAA Pilot Weather Briefers. All FAA PWB candidates will be certified by the FAA-A MIC to perform official PWBs without supervision.

4.3.1 Written Exams. Students at the FAA Academy are required to take written weather analysis, satellite, and radar examinations administered by the NWS Office at the FAA Academy. A “Pilot Weather Briefing - Qualification Report” is completed by the FAA Academy, using the current version of NWS Form D-5. A copy is mailed to each student’s assigned facility, noting scores for each exam administered. If a student fails the exam, a request to retake the exam while still at the FAA Academy must be made formally to the FAA Academy Flight Service Branch Supervisor.

A student failing written exams may be allowed instead to retake them at a field facility. If this is done, the exams will be administered by the facility Air Traffic Manager (ATM) or their designee. Tests and answer sheets will be obtained from the FAA-A MIC and returned for grading and further processing. If the student fails to pass the exams given at the FAA field facility, the FAA-A MIC will notify the appropriate FAA region, with a copy to the student’s facility ATM. Whether the form is accompanied by a written recommendation from the FAA-A MIC on the student’s suitability for PWB duties is situationally dependent.

4.3.2 Oral Exams. The facility ATM will ensure PWB candidates are prepared to take the oral exam only after successfully passing all written exams. Once the candidate is sufficiently prepared, he/she will take the oral exam by performing a PWB for the FAA-A MIC, or designated staff.

The oral exam is only for employees in PWB assignments or who will enter PWB assignments within 60 days. It will normally be given by telephone, but, on occasion, may be given at the duty station. The oral exam must ensure the employee can gather all pertinent weather data and present it to the pilot in a logical, concise, and easily understood manner. The briefing provided during the exam should clearly state the present and forecast weather conditions. It must, at a minimum, cover all available weather information, either international or domestic, which meets the pilot’s specified needs. The oral exam should assess the candidate’s basic understanding of radar and satellite information as a PWB tool.

Appendix C, Oral PWB Evaluation Sheet, will be used to determine the student’s oral exam grade. The PWB will be evaluated in three general areas: (1) acquisition of background information; (2) briefing content; and (3) quality factors. If the student misses one adverse weather condition, all allotted points for the adverse conditions section will be deducted. Failure

to alert the pilot to an adverse condition may hinder the pilot's safety of flight. Detailed evaluation guidelines and standards of performance are contained in Appendix A.

The pass-fail decision is contingent on the trainee's coverage of adverse weather conditions. To ensure objective quality control, validation, and standardization of oral exams, briefings should contain one or two types of adverse weather conditions along the route of flight, either at low- or high-level (for this purpose, 24,000 feet above mean sea level separates low-level from high-level). This will ensure a uniform level of difficulty and make the exam score a reliable indicator of individual performance. Adverse weather conditions include low ceilings and visibilities, mountain obscurations, turbulence, thunderstorms, freezing precipitation, icing, and strong low-level winds and/or shear. The route of flight should be at least 200 nautical miles long.

Minimum passing grade is 70 percent. The FAA-A MIC or designee will provide oral comments during the de-brief session, detailing deficiencies noted which led to the final score. If the trainee fails the PWB oral exam, the FAA-A MIC or designee should further discuss problem areas with the student and their supervisor before scheduling a retake. Information on failures will be kept on file at the FAA Academy to assist in any future problem area discussions with the trainee prior to retaking an exam. Further failure will require the FAA-A MIC to discuss the trainee's future in PWB duties with the facility manager.

4.3.3 Issuance of Certificates of Authority (CA). The FAA-A MIC will, within five (5) working days, issue a CA for PWB and forward it to the appropriate facility ATM once the candidate successfully passes the oral exam. The date the candidate passes the oral exam will appear on the CA, and is the date the pilot weather briefer is officially authorized to work the position without supervision.

4.3.4 Maintenance of Files. The NWS Office at the FAA Academy will maintain a current list of pilot weather briefers, CA numbers, issuance dates, etc., in a computerized database format. The original CA will be displayed at the facility. The facility ATM may provide a copy of the CA to the briefer, if requested. CAs will be forwarded to the new facility when the briefer is reassigned. The gaining facility ATM will notify the FAA-A MIC and the Regional Aviation Meteorologist or equivalent upon receipt of the CA.

5. Proficiency Checks and Proficiency Exams of Pilot Weather Briefers.

5.1 Proficiency Checks. Proficiency checks are informal evaluations of pilot weather briefers and can be equated with routine quality control checks. The PWB evaluation forms in this instruction's appendices will be used and included in the PWB CA database.

Proficiency checks will be conducted for the following:

- a. When a pilot weather briefer's reassignment involves a move of more than 600 miles, or when the surrounding terrain or prevailing weather regimes of the old and new stations are significantly different.

- b. When a pilot weather briefer, for any reason, has not provided a briefing for at least six (6) months (e.g., temporary assignments, extended illness).
- c. To revalidate the PWB certificates of FAA Academy instructors.

When a proficiency check identifies a significant deficiency, the evaluator will discuss the problem area(s) with the manager, training specialist, and PWB specialist, and immediately schedule a formal proficiency exam two (2) weeks from the proficiency check date. The PWB specialist may continue to perform official PWB duties, but should take additional training in noted deficient areas.

5.2 Proficiency Exams. Proficiency exams are formal evaluations identical to oral certification exams. Supervisory officials from the NWS and FAA may request proficiency exams for pilot weather briefers at any time for any reason. The FAA-A MIC will respond to these requests in a timely manner. The PWB evaluation forms in this instruction's appendices will be used to determine the briefer's performance grade. Notification procedures are the same as those of proficiency checks.

CAs will be suspended if briefing performance is substandard. When a CA is suspended, a briefer will not provide PWBs without immediate supervision. Another proficiency exam will be scheduled as soon as possible after appropriate remedial training is accomplished. FAA facility supervisors may request training assistance from the nearest WFO, if necessary, or obtain training recommendations and available resource material from the NWS Office at the FAA Academy. The PWB CA will be canceled if the briefer fails a second time to demonstrate satisfactory performance.

6. Invalidation of CA. When the holder of a CA terminates employment or changes to a position not requiring PWB duties, the facility supervisor will notify the FAA-A MIC as soon as possible and mail the original CA for invalidation. The PWB CA database at the FAA Academy will be updated to reflect the change and will remain a record for two (2) years after the invalidation date.

7. Revalidation of CA. When the CA has been invalid for two (2) years or less, re-certification can be accomplished by successfully completing an oral exam. In this case, a new certificate will be issued by the MIC at the FAA Academy.

If the holder fails the examination, or if the CA has been invalid for more than two (2) years, the successful completion of both written and oral examinations will be required.

7.1 Revalidation of FAA Academy Instructor's PWB CA. The PWB CAs of FAA Academy instructors remain valid when they are assigned to the FAA Academy. Although exempt from exam re-takes upon return to PWB duties in the field, they must have their CAs re-validated, and are subject to the same proficiency checks as a briefer transferring from one field station to another. Anyone assigned to the FAA Academy as an instructor will have all PWB records from their previous duty station sent to the FAA Academy Flight Service Branch Supervisor for filing.

Appendix A - Pilot Weather Briefing Oral Exam Performance Standards

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1. Performance standards. Standards of performance for presentation of pilot briefings have been developed for NWS evaluating officials to use when conducting oral exams for FAA employees. This Appendix provides guidance in the administration of, and preparation for, the Oral Pilot Weather Briefer Examination. The examination should be standardized and evaluation factors uniformly applied. All tasks and performance indicators are consistent with official publications, interpretation, and guidance.

“Expected Performance” categories are identified on the left side of each page. Statements of criteria to be measured for each task are labeled “Performance Indicators”, and are on the right side of each page. “Expected Performance” is measured by observing actual performance, and comparing it against the “Performance Indicators”.

“Complete” and “accurate” are the basic criteria for evaluation of performance.

Supplementary information has been provided, where necessary, to convey intent and/or to furnish additional instruction and guidance.

1.1 Background Information

EXPECTED PERFORMANCE

A. Obtains required background information

(VFR)

PERFORMANCE INDICATOR

Utilizes checklist and briefing background information that includes:

- Type of flight ... Visual Flight Rules

Instrument Flight Rules (IFR), etc.

- Aircraft Identification or Pilot Name

- Aircraft type

- Departure point and Destination

- Estimated time of departure (ETD)

- Proposed altitude

- Route of flight

- Estimated time en route (ETE)

- Estimated time of arrival (ETA)

Supplementary Information

(1) The examiner will ensure that the ETD is within 2 hours of the time of the briefing.

(2) ETA is requested or computed from ETD and ETE.

1.2 Briefing Content

EXPECTED PERFORMANCE

A. States applicable adverse conditions

PERFORMANCE INDICATOR

Statement of significant meteorological and/or aeronautical information that might influence the pilot to cancel, postpone, or alter the proposed flight. Adverse or hazardous conditions to be included are:

- thunderstorms and icing

- turbulence and strong low level winds

- low level wind shear

- freezing precipitation

- ceiling/visibilities below VFR, minima, mountain obscuration, and/or LIFR weather.

Conditions must be:

- pertinent to the proposed route or alternate

- pertinent to the type of aircraft and flight

- pertinent to the proposed time of flight

Supplementary Information

(1) Delivery of extraneous information (adverse conditions, current and forecast conditions, etc.) will result in deduction of points. An example of when points would be deducted is when a specialist provides Airmet Sierra for an enroute portion of a high level flight.

EXPECTED PERFORMANCE**PERFORMANCE INDICATOR**

B. Recognize and apply VNR statement

- State VFR not recommended if applicable (determined from basic VFR cloud and vsby requirements)
- supports VNR statement with brief description of the meteorological conditions, whether actual or forecast, whether surface based or aloft, which might make VFR flight doubtful.

Supplementary Information

(1) Adverse conditions and VNR are included as one item on the evaluation sheet. Every evaluation briefing should contain adverse conditions. If they are pertinent, they must be given in addition to any synoptic statement.

Failure to cover any of the adverse conditions (or VNR statement), when applicable to a given route, will result in forfeiture of all evaluation credit allotted to “Adverse Conditions” (i.e., 30 points). The inclusion of non-pertinent conditions will also result in point reductions of up to 20 points. Due to the individual subjectivity involved in the determination of adverse weather conditions, examinees may at times communicate conditions not noted directly on the route. If they can justify their statements to the evaluator’s satisfaction, there will be no penalty for “non-pertinent information” on the evaluation sheet.

(2) If a weather advisory (WST, WS, WA, CWA, AWW) is used to support the weather briefing, the examinee shall identify the source, e.g., Convective SIGMET 34C, DFW SIGMET Bravo Two, etc.

EXPECTED PERFORMANCE**PERFORMANCE INDICATOR**

C. Provides synopsis

Brief verbal statement outlining the dominant feature or weather-generating factor(s) along the pilot’s intended route of flight.

Statement should include applicable:

- pressure patterns (surface and aloft)
- wind flow patterns
- surface fronts and troughs
- other pictorial details

EXPECTED PERFORMANCE

D. Provides current, en route, and terminal weather conditions

1) VFR Flight

2) IFR Flight

3) High Altitude Flight

PERFORMANCE INDICATOR

Summarize the weather for the flight but provide required data for the proposed flight.

Required data when applicable to proposed flight:

- departure weather
- cloud cover amounts and bases
- cloud tops if pilot indicates VFR flight on top intended
- mountain obscurations
- visibilities and obscuring phenomena
- turbulence, including strong LLWS winds
- thunderstorms and icing
- arrival (destination) weather
- alternate routing when appropriate

Required data when applicable to proposed flight;

- departure/climb out weather
- cloud cover amounts, bases, and tops
- thunderstorms, especially embedded
- turbulence, including strong winds and shear
- freezing level (s)
- obscuring phenomena at/near cruising altitude
- descent destination weather
- alternate weather
- alternate routing when appropriate

Required date when applicable to proposed flight:

- departure/climb out weather
- CB/thunderstorm tops, lines , movement
- jetstream location
- turbulence/clear air turbulence (CAT)
- descent destination weather
- alternate weather

EXPECTED PERFORMANCE

E. Provides forecast en route and terminal weather conditions

1) VFR flight

2) IFR flight

3) High Altitude flight

F. Provides destination forecast weather

PERFORMANCE INDICATOR

Summarizes en route forecast conditions in a logical order, i.e., departure/climb out, en route/cruise, and descent/destination.

Required data when applicable to proposed flight:

- cloud cover amounts and bases
- cloud tops on pilot request
- visibilities
- mountain obscurement (if applicable)
- turbulence, including wind shear
- freezing precipitation and icing
- obscuring phenomena
- alternate routing when appropriate

Required data when applicable to proposed flight:

- cloud cover amounts, bases, layers, and tops
- thunderstorms, especially embedded
- turbulence, including wind shear
- freezing level (s) and icing
- freezing precipitation
- obscuring phenomena
- alternate routing when appropriate

Required data when applicable to proposed flight:

- CB/Thunderstorm tops, lines, and movement
- jet stream location
- turbulence / CAT
- freezing level (s)
- descent weather

Uses most recent aviation terminal forecast (TAF) when available

- when TAF is not available, extracts general forecast from FA or TWEB and identifies source
- time frame is relevant to ETA
- significant changes ... 1 hour before/after ETA
- alternate destination forecast if appropriate

EXPECTED PERFORMANCE**PERFORMANCE INDICATOR**

G. Provides winds aloft forecasts, and temperatures when appropriate

(1) Provides wind direction and speed

- provides wind direction in degrees and wind speed (summarizes when requested)
- uses valid forecast times
- interpolates between forecast altitudes when appropriate
- upon request, provides most favorable altitude for winds
- provides significant changes in direction or speed along the proposed route.

(2) Provides temperatures aloft

- summarize when applicable
- interpolate when appropriate
- mandatory when icing potential exists
- provided for high altitude flights
- provided upon pilot request

Supplementary information

Based upon the information available regarding actual and forecast weather conditions, the examiner evaluates the briefing in terms of correct interpretation of the available meteorological data, as well as in terms of completeness and relevance.

The specific information presented by the examinee must, in the judgement of the examiner, present an accurate picture of what is currently occurring and of what is forecast to occur. Failure to accurately convey the data received for all phases of the flights weather, both current and forecast, will result in point deductions from the applicable element under the “Briefing Content” section.

Opportunity and necessity for summarization varies with each briefing - however the data sources are constant. Evaluation will be made on the utilization of available information for each phase of the flight, in terms of timeliness and completeness, as well as on the nature of what is actually conveyed to the pilot. Failure to use appropriate data sources to satisfy the performance indicators will result in point deductions from the evaluation credit allotted to “Current Conditions” and “Forecast Conditions”. However, the examinee should be questioned on missing data when the formal briefing has been completed. No one should lose points for failing to convey unavailable data.

Freezing level will be provided when the proposed altitude for the flight is at or above the actual or forecast freezing level.

Temperatures aloft are not routinely given to low-level flights unless, in the opinion of the briefer, one of the following is probable: Unusually hot/cold weather is likely to impact altimeter and density considerations, an icing potential exists, or if requested by the pilot.

1.3 Quality Factors

The examinee is expected to organize and summarize the weather conditions in the logical phases of flight, i.e., the departure/climb out, en route/cruise, and descent/arrival phases. The examinee should be familiar with IFR “alternate minimums” which are 2 miles visibility, and a ceiling of 800 feet for non precision approach airports or 600 feet for precision approach airports. Alternate routing requirements and aircraft range information should be discussed with the pilot when conditions warrant.

The examinee is expected to anticipate and discern the needs of the pilot, based on the type of flight, altitude(s), and aircraft characteristics (e.g., helicopter, jet, etc.), and to satisfy the pilot’s operational needs for weather information without the pilot having to make excessive requests to the briefer for routinely available data.

The examinee is expected to convey an attitude of competence, conveying information in a straightforward and helpful manner without attempting to make the decision for the pilot. The briefing should be conducted in a professional and courteous fashion.

The examinee is expected to have and convey confidence in the information being imparted and in the conduct of the briefing itself. Pace and voice quality must be such that the pilot can understand and follow the elements of the briefing, can develop them into an accurate picture of conditions, and can write down pertinent parts without asking for excessive repeats.

Questions appropriate for a pilot or student pilot to ask, which will explore the examinee’s level of meteorological and aeronautical knowledge, may also be asked. Such questions should only be used to provide a basis for evaluation in areas not demonstrable during other portions of the briefing. Failure of the examinee to meet the performance standards described above in answering such questions will result in point deductions from the total allotted to “handling of specific questions of pilot”. If the examiner judges that a complete description of conditions has been given and that no questions are appropriate, all allotted points shall be awarded.

The examiner’s evaluation of miscellaneous elements must include the use of briefing aids (for face-to-face briefings); knowledge of local terrain and/or the potential for local meteorological anomalies (when location and type of flight make it appropriate); relevant requests for pilot reports; and demonstration of aeronautical knowledge (e.g., VFR minimums, standard IFR alternate requirements, the minimum enroute altitude concept, altimeter setting information requirements, and the density altitude concept and effects). Source materials for aeronautical knowledge elements include course supplementary texts and the Aeronautical Information Manual, Part 1. When the opportunity for evaluation of these factors has not presented itself during the briefing, the examiner will ask questions consistent with the briefing environment to provide a basis for evaluation and allocation of points.

Appendix B - Facility Visitation Site Evaluation Report

U. S. Department of Commerce National Oceanic and Atmospheric Administration National Weather Service Facility Visitation Site Evaluation Report		10-809-2 (4-1-02)				
Facility visited: 3-letter ID... City, State	Name and office of person conducting Visit:					
Facility Manager Name:	Date of visit:					
1. Pilot Weather Briefings - Proficiency checks (monitoring acceptable)	Type of Pilot Weather Briefing	Number monitored	Rating <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center;">E</td> <td style="width: 33%; text-align: center;">S</td> <td style="width: 33%; text-align: center;">U</td> </tr> </table>	E	S	U
	E	S	U			
	VFR					
	IFR					
In-Flight (EFAS)						
2. Product use / interpretation (Brief weather synopsis and how products used)	Product type	Rating (E,S,U)	Rating (E,S,U)			
	Satellite imagery		Radar (Doppler)			
	Weather Graphics		METAR's			
	TAFs		FA's			
	TWEB's		Advisories			
	Winds aloft		NCWF			
	CWSU products		CCFP			
	PIREPs					
3. Quality of Other Programs	Activity		Rating (E,S,U)			
	EFAS					
	Broadcasts (TWEBs, TIBs, PATWAS, etc)					
	Automated Equipment Type:					
4. Other remarks:						

Appendix C - Oral PWB Evaluation Sheet

Form 10-809-3 (4-02)			U.S. Department of Commerce National Oceanic and Atmospheric Administration			Briefer:			
ORAL PWB EVALUATION SHEET						Station:			
1. BACKGROUND INFORMATION			MAX. SCORE	SCORE	Evaluator:				
Type of Flight, Aircraft I.D., Aircraft type, Departure point, Route of Flight, Destination, Altitude, Time of departure, Time En Route			5		Date:				
					Route: Low level = High level =				
Total			5		3. QUALITY FACTORS			MAX. SCORE	SCORE
					Logical Order			2	
2. BRIEFING CONTENT			MAX. SCORE	SCORE	Attitude			2	
Adverse Conditions: All points deducted if any Adverse Condition missed Partial deduction if non-applicable conditions given			30		Confidence			2	
					Pace			2	
Synopsis			5		Voice			2	
Current Conditions			15		Handling Specific Questions of Pilot			10	
Forecast Conditions			15		Miscellaneous: Knowledge of local terrain. Demonstration of Aeronautical Knowledge Satellite, Radar interpretation			10	
Total			65		Total			30	
Minimum Passing Grade = 70 %					SCORE For oral evaluation: TOTAL				
Names of Facility participants in debrief :									
Remarks: Debrief comments									

D-1

Appendix E - Meteorological Interpretation Checklist

This checklist will be used as guidance for aviation forecasters visiting FAA AFSS/FSS facilities. Forecasters will complete and check each item during the visit. If problems arise with any items, place an "X" instead of a check mark. WFOs can either work with the AFSS to provide additional training for the problem items, or contact the FAA Academy for further support. Any comments or formal write-ups of the visit will be attached to this checklist.

1. Administrative and Training
 - a. In-brief with FAA Facility Manager or designee, and training support specialist(s) or quality assurance
 - b. Personnel Roster updated and attached to this checklist
 - c. Facility training activities discussed; support from NWS extended if necessary
 - d. Review of completed action items from previous visit (if any)

2. FAA System(s) in use: (check applicable)

Model 1 (Full Capacity)

☐ OASIS Installation date _____ Training completion date _____

☐ WSI

☐ SUA/ISE

☐ Other (List) _____

3. Meteorological Products and Interpretation
 - a. WFO
 - (1) TAFs
 - ☐ Use and interpretation of coded reports for visibilities and restrictions to visibility
 - ☐ TEMPO group interpretation
 - ☐ PROB group interpretation
 - ☐ FM/BECMG group interpretation
 - ☐ Correct summarization of TAF groups along PWB routes
 - ☐ Knowledge of LLWS in TAF, including levels of forecast
 - (2) Transcribed Weather Broadcasts (TWEB)
 - ☐ Usefulness of product in FAA PWB operations
 - ☐ Correct interpretation of route forecast products
 - b. Aviation Weather Center (AWC)

- (1) Area Forecast
 - ☐ Altitude reference interpretation (MSL unless prefaced by AGL or CIG)
 - ☐ Cloud top interpretation (when not explicitly defined in time frame)
 - ☐ Surface based total obscuration interpretation
- (2) Significant Meteorological Advisory for Convection (SIGMET WS)
 - ☐ Ability to summarize and compare to radar
 - ☐ Proper reference to AC product
- (3) Collaborative Convective Forecast Product (CCFP)
 - ☐ Knowledge and proper use of product
- (4) National Convective Weather Forecast (NCWF)
 - ☐ Product use and briefing limitations (absence of development and decay)
 - ☐ Knowledge of update frequency
- (5) Current Icing Potential (CIP)
 - ☐ Product usage and briefing limitations (it is not a measure of icing intensity or potential)
 - ☐ Knowledge of update frequency
- (6) Significant Meteorological Advisory (SIGMET)
 - ☐ Ability to summarize and compare to Pilot Reports (PIREP)
- (7) Airman's Meteorological Advisory (AIRMET)
 - ☐ Ability to determine area affected (especially when time referenced in product is transitional)
 - ☐ Ability to determine ending time of phenomena when ending before routine expiration time
 - ☐ Proper dissemination to pilot for proposed route of flight
- (8) Winds Aloft (FD)
 - ☐ Use of correct time periods from winds aloft tables
 - ☐ Ability to correctly read winds and associated temperatures at all levels
 - ☐ Ability to interpolate FDs for PWB routes/altitudes
- (9) Convective Outlook (AC)

- ☐ Interpretation and correct cross-reference to SIGMET WS
 - ☐ Interpretation assistance of meteorological terms in product
 - ☐ Good working knowledge of CAPE for use in PWB background information
 - ☐ Understanding thresholds (general thunderstorms, low, moderate, and high risk)
- c. CWSU
- ☐ Ability to retrieve and interpret Center Weather Advisories
 - ☐ Ability to retrieve and interpret Meteorological Impact Statements
 - ☐ Knowledge of difference between CWA and MIS
- d. Satellite Interpretation
- ☐ Interpretation of synoptic scale features – frontal boundaries, commas, leafs
 - ☐ Ability to identify low ceilings and visibilities
 - ☐ Identification of squall lines on visible and infrared satellite pictures
 - ☐ Placement of polar jet stream using satellite imagery
 - ☐ Able to associate cirrus streaks with clear air turbulence
 - ☐ Interpretation of turbulence and adverse winds in vicinity of jet streams
 - ☐ Interpretation of low stratus and fog, haze, smoke, blowing dust, volcanic dust
 - ☐ Identification of cumulus clouds, streets, thunderstorms, arc clouds, lake effects, local winds (sea, land, lake, and valley breezes), and mountain waves.
 - ☐ Determining cloud trend from satellite loops
- e. Radar Interpretation
- ☐ Able to pick out ground clutter / anomalous propagation / chaff
 - ☐ Interpretation of intense activity
 - ☐ Correctly used echo tops
 - ☐ Interpretation of bright band correct (if present)
 - ☐ Correct use of VAD winds and limitations
 - ☐ Determining precipitation trends from radar loops
 - ☐ Other
- f. Weather Charts
- ☐ Surface Analysis
 - ☐ 850 mb, 700 mb, 500 mb, 300 mb, 250 mb, 200 mb
 - ☐ Weather Depiction
 - ☐ Radar Summary
 - ☐ Composite Moisture/Stability
 - ☐ Low-level Significant Weather Prognosis (Prog)

- ☐ 36- and 48-hour Surface Prog
- ☐ High-level Significant Weather Prog
- ☐ Winds and Temperature Aloft Prog
- ☐ Convective Outlook Chart

g. Public Forecast Products

- ☐ Area Forecast Discussion use and interpretation
- ☐ Mesoscale Discussions
- ☐ Interpretation assistance of meteorological terms
- ☐ Other

A copy of this completed checklist and any comments or discrepancies will be forwarded to the WFO conducting the visit for filing, the Regional Aviation Meteorologist at the respective Regional Headquarters, and the FAA-A MIC.